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MEASURES TO COMBAT MALARIA AND HELMINTH INFECTIONS IN THE USSR

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As a result of methodical and planned efforts of the health agencies and considerable assistance from local soviets and party organizations, incidence of malaria has each year been reduced with greater momentum since the war's end. This can be seen from the following figures: the incidence of malaria was reduced by 19.5% in 1948, by 27.6% in 1949, and by 53.5% in 1950. Because of the good results achieved during every succeeding year since the end of the war, the incidence of malaria in 1950 was four times less than it was in 1940, the year prior to the outbreak of the war.

The following areas were the most successful in their efforts to eradicate malaria by 1950: the health agencies of the Ukrainian SSR, Lithuanian SSR, Latvian SSR, Belorussian SSR, Moldavian SSR, Estonian SSR, and those of the following oblasts of the RSFSR: Orlov, Voronezh, Kursk, Leningrad, Kalinin, Moscow, and Rostov, as well as the cities of Rostov-on-Don, Stalingrad, and others. In many rayons and populated places there was no occurrence of malaria at all. During the first half of 1950, no incidence of malaria was recorded in 84% of populated places of Kharkov Oblast; in Poltava Oblast there were only isolated cases of the disease in 31 of its 46 rayons, etc.

A considerable amount of work was done in 1950 in treatment of malaria patients and in chemical prophylaxis of the population. About 6.5 million acres of surface of smaller reservoirs have been sprayed or sprinkled with oil, etc. The use of DDT and hexachlorocyclohexane preparations was extended considerably in 1950 in contaminated populated centers. Incidence of malaria was reduced in areas where these measures were taken.

These accomplishments in the reduction of incidence of malaria are directly connected with those achievements of industry and agriculture which each year improve the well-being and cultural level of the Soviet population. The rapid

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growth of cattle breeding is of particular significance in the prevention of malaria, because increase in livestock reduces the number of mosquito bites among people. Merging of hospitals, outpatient clinics, and dispensaries and assignment of physician-specialists to rayon hospitals are creating conditions for ambulatory treatment of malaria patients and for their successful treatment in all units of the therapeutic-preventive network. Further increase of the quality of medical service to the population is connected with this unification.

At a conference held at the Ministry of Public Health USSR, problems confronting health agencies and medical workers in their efforts against malaria and helminthiases were extensively discussed. Taking into consideration the above-mentioned achievements, Professor V. M. Zhdanov, chief of the Main Sanitary-Epidemic Control Administration, called attention of those present at the conference to the fact that health agencies of a large number of rayons of Azerbaydzhan SSR and Yakut ASSR, of Akmolinsk and Kutaisi oblasts, and of the city of Chelyabinsk have made no progress in the eradication of malaria. Favorable seasonal meteorological conditions during the 1949 - 1950 period, having reduced the danger of the spread of malaria in a number of places led to unwarranted complacency in a few chiefs of health agencies and to a decrease in volume and quality of malaria control measures in the Kabarda ASSR, Gur'yev and Chelyabinsk oblasts, and others.

Professor Zhdanov also noted that, despite the annual reduction of incidence of malaria, the republics of Central Asia, particularly the Uzbek, Kazakh, Tadzhik, and Kirgiz SSRs, trail behind other republics in the speed with which preventive measures are carried out. Consequently, the relative standing of these four republics in relation to general morbidity throughout the USSR rose from 12.5% in 1940 to 29.4% in 1950, that is, almost 2.5 times.

Registration of patients is very important in the fight against malaria. This was seen in the Azerbaydzhan SSR, where the number of people treated who had a relapse in 1950 was 83% larger than the number of registered malaria cases in 1949; according to corresponding registration data, this discrepancy was 47.5% in the Ukrainian SSR, 40.7% in the Tadzhik SSR, 39% in the Moldavian SSR, 30% in the Uzbek SSR, etc. To liquidate these defects, the Ministry of Public Health issued Decree No 161 of 22 February 1951, recommending that all public health executives:

1. Keep special records of each case of malaria.

2. Provide compulsory examination of blood for malaria in the case of each patient who has a temperature or is suspected of having malaria.

3. Begin treatment of the patient for malaria immediately after the medical officer establishes the diagnosis, without waiting for the results of the blood tests.

4. Conduct systematic outpatient treatment for all patients registered as having malaria and conduct successive treatment in all units of the therapeutic-preventive establishments.

5. Place the responsibility upon subprofessional medical workers to carry out the prescribed treatment and chemoprophylaxis among malaria patients.

The speaker reported that on 9 and 10 February 1951, the Collegium of the Ministry of Public Health USSR discussed measures against malaria and helminthiases in the USSR. On the basis of recommendations of the Collegium, Decree No 161, of 22 February 1951 was promulgated, delegating to health agencies the following tasks:

1. Not only to reduce incidence of malaria, but also to liquidate the disease in a large number of rayons.

2. To take measures which would prevent appearance of new cases of tropical malaria in localities of the RSFSR, Ukrainian SSR, and Belorussian SSR.

3. Reduce the number of cases of tropical malaria by two or three times in comparison with the number of cases in 1950 in the following republics: Uzbek, Georgian, Tadzhik, Kirghiz, Armenian, Turkmen.

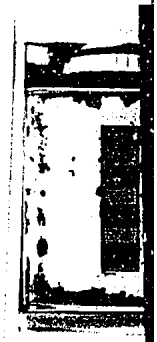
4. Create conditions whereby incidence of malaria would be reduced to isolated cases of the tertian variety in the majority of rayons of the Ukrainian, Belorussian, and Karelo-Finnish SSRs and in not less than 35% of rayons of the RSFSR.

5. Reduce malaria incidence by half the number of cases in other republics.

Zhdanov emphasized that these tasks can be accomplished if the work is systematically organized by those in charge of health protection and by incessant efforts against malaria on the part of medical workers belonging to all therapeutic-preventive agencies. To prevent isolated outbreaks of the disease, it is necessary to organize the work on the basis of a profound study of the epidemiological peculiarity of each separate rayon or populated center. In the first place, such work must be conducted in regions where construction of large hydraulic stations is going on, among migrants, and among workers employed in key industries. It is necessary to mobilize efforts quickly in localities that are backward, to reinforce and investigate the personnel in charge of therapeutic-preventive and malaria control agencies in rayons and populated centers where the epidemiological setup does not seem to be functioning satisfactorily.

Professor P. G. Sergiyev set down the main close-range tasks for malaria control. According to him, the assignments for liquidating malaria as a common disease were successfully carried out in the majority of republics and consisted of limiting incidence of the disease to isolated cases in both rayons and cities. Therefore, he said, the new job is that of continued control resulting in complete liquidation of malaria. This task must be accomplished along the main routes of migration of population, i.e., at (1) water transport and railroad transport installations (main ports, wharves, and railroad stations); (2) health resorts and regions accommodating large numbers of tourists (Northern Volga valley, Black Sea coastal area, and others); and (3) areas where summer health resorts for children are located. Great importance is attached to measures for the prevention of dissemination of malaria by newly-arrived contingents of population.

At the rural district hospital (dispensary) as well as in the city hospital which has a health officer, epidemic control reconnaissance must be efficiently organized for the populated center served by the hospital. Each new arrival must be placed under observation for possible transmission of infectious diseases, particularly malaria. Malaria control among migrants and organized contingents of new arrivals who are going to work at peat plants, lumber yards, and construction projects is very important. Detection of malaria incidence among the newly arrived must be coordinated with medical examinations and epidemic control measures which are directed toward prevention of other infectious diseases. It is necessary to treat each malaria case as a nidus of infection making it necessary to renew malaria control measures. Hospitalization of malaria patients during the epidemic period is now provided in a large number of rayons. The following measures are also indicated: providing the patient with a screen (it is ordered from the hospital), and treatment of the



patient's farmstead with DDT or hexachlorcyclohexane preparations. In those populated centers where malaria morbidity is still high, all farmsteads or those parts of them that face resevoirs should be treated with DDT (carrier method of treatment).

Education in hygiene must be reorganized. Transition must take place from agitation for treatment to training patients in the responsibility of being treated. It is also of great importance that those in charge of industrial establishments and of therapeutic organizations be responsible for preventing the transplantation of malaria into other rayons and oblasts. It is necessary to teach the population ways of liquidating malaria so that health agencies will have active, trained people on hand to assist them in the prevention of new nidi of malaria infection, nidi of reproduction of mosquitos, etc.

Decree No 162 of 22 February of the Ministry of Public Health USSR proposed to the heads of health protection agencies the general method of treatment of patients with helminthiases. Examination of 20 million people and treatment of those who had diseases of this type was provided for. This work must be carried out within organized children's collectives. Examination for helminthiases was made obligatory for all persons who come in for hospitalization primarily in therapeutic, children's, infectious, surgical, dermatological-venereal, and tubercular branches and hospitals, with subsequent dehelminthization of those affected (if contra-indications are absent).

V. M. Zhdanov informed those present at the conference that extension of the work of examining the population during the period between 1949 and 1950 revealed helminthiases in a large number of people. Ascariasis was the most widespread (about 70% of all helminthic diseases).

The major shortcoming of the helminthiasis control is the rather unsatisfactory scope of treating patients even after a positive diagnosis, and the still unsatisfactory work of the sanitary-epidemiological stations in organizing and directing measures toward helminthiasis control, in instructing medical workers of the therapeutic-preventive establishments, and in developing propaganda in regard to hygiene among wide segments of the population.

Professor V. P. Pol'yapol'skaya, in her report, brought up the question of a differentiated approach towards measures against various types of helminthiasis, taking into consideration conditions under which helminths are transmitted and the length of time that it takes for helminths of different species to mature within the human or animal organism and in nature.

The most clear-cut results may be achieved in regard to susceptibility of the population to taeniasis in its liquidation if one takes into account that development of the causative agent, beef tapeworm /taenia saginata/ is connected with two hosts: humans and cattle. The period during which the parasite develops is at least 3 months. Thus, under optimum conditions a complete cycle of development of beef tapeworm is accomplished in 6 months. Therefore, active discovery of patients affected with taeniasis and dehelminthization of them in hospitals, i.e., under conditions preventing any further transmission of the parasites thrcugh external media to cattle, may produce a considerable reduction of susceptibility of the population to this disease. Principal attention must be turned to persons who have close contact with cattle (shepherds, milkmaids, and workers who take care of cattle) to avert infection of the intermediate host and thereby break the chain in the rotation of the parasites (humans affected with taeniasis-animals-healthy humans).

The cycle of development in ascarides is 3 months (the eggs of ascarides mature within 2 weeks in external surroundings; in 2½ months ascarides hatch from the eggs and develop until sexual maturity within the human organism).

Attention, therefore, must be turned to prevention of contamination of surroundings and to mass treatment of the population against helminths; for this, organized children's groups should have priority. Taking all this into consideration, the task is to maintain supervision over sanitation in populated places. This consists of rational construction and utilization of receptacles for solid and liquid refuse and rubbish.

Education in hygiene is of particular importance. It is necessary to tell people how to guard themselves against such infections as ascariasis, for example. This may induce the more active element of the population to exercise supervision over cleanliness in lavatories, etc. Explanation of the modes of infection with Taenia and Trichinella parasites would help to organize the sanitary and veterinary control over the sale of meat, etc.

Information concerning methods of infestation by Ancylostoma parasites, particularly the capacity of ancylostomata to penetrate through the undamaged integument, should force the people of areas affected with these helminths to observe personal hygiene (when out-of-doors, to sleep on bedding which cannot be penetrated by larva of ancylostomata; to avoid going barefoot; to wear mittens when doing farm work; etc.). Dehelminthization against Ancylostomata, carried out during the winter months when the temperature of the soil is below 0°C, results in rapid extermination of Ancylostomata in nature and thereby leads to cessation of any further transmission of this disease. One out of two dehelminthizations per year must be made during the winter season. Agencies of the Sanitation Inspection and Sanitary-Epidemiological Service, and local medical workers must be persistent among the mine executives, if incidence of ancylostomiasis is to be discovered among miners. In mines where there is a constant temperature above 20°C, improvement in sanitation must be conducted (ventilation, drainage, construction of latrines, providing miners with special clothing and canteens, etc.).

The problems of malaria and helminthiases control are presented anew to the large circles of medical workers and before the scientific and soviet communities. The Soviet people, the builders of Communism, must not be indifferent to prevalence of malaria, helminthiasis, and sand fly fever on a large scale. The activities of medical science must be effectively extended to accomplish successful reduction of some diseases and to complete the liquidation of others.

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